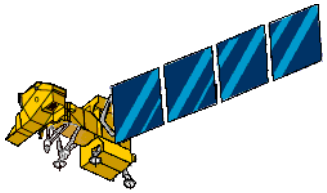
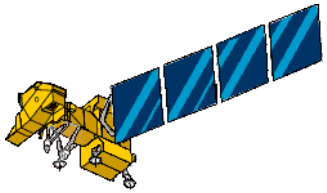


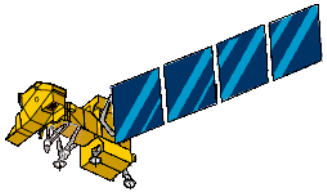
Landsat 7 Project Overview

Ken Dolan
Landsat Deputy Project Manager



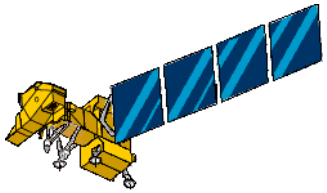
Program status

- **Launch has been delayed to no-earlier-than February 1999 because of instrument power supply failures during Enhanced Thematic Mapper Plus (ETM+) thermal vacuum testing.**
- **Power supplies are at Santa Barbara Remote Sensing for repair.**
- **Spacecraft has completed sine vibration testing sans ETM+ scanner.**
- **Delta Pre-Environmental Review held on April 29, 1998.**
- **Review Team set up to review instrument calibration.**



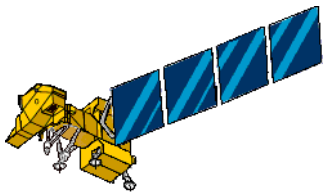
Data Processing Requirements

- **Capture and process 250 ETM+ scenes to Level 0R with corresponding metadata and browse files per day.**
- **Archive the Level 0R scenes in the EDC Data Active Archive Center (DAAC).**
- **Make available to users a maximum of 100 scenes per day (Level 0R/Level 1R/Level 1G).**



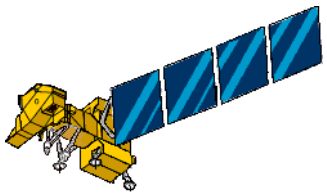
Significant system changes

- **Revised test program to reduce program risk.**
  - **Added early (brief) ETM+ integration to verify instrument electrical and mechanical interfaces and to acquire wideband science data for ground system verification.**
  - **Spacecraft sine vibration without ETM+ (with ETM+ Auxiliary Electronics Module and cables).**
  - **Added ETM+ sine vibration.**
  - **Implementing a 2-Phase thermal vacuum test (Phase 1 - spacecraft alone; Phase 2 - spacecraft plus instrument).**
  - **Added a system level acoustic test.**
- **Level 1 processing capabilities increased to 100 scenes per day.**



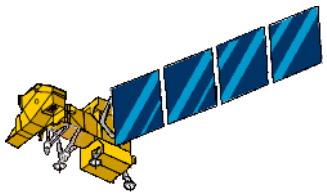
Project status

- **Spacecraft**
  - **All components, except the ETM+ scanner, have been integrated.**
  - **Software has completed qualification testing on the spacecraft.**
  - **Have successfully completed two Comprehensive Performance Tests (CPT) without the instrument.**
  - **Have performed EMI/EMC, acoustic, and sine vibration tests without the instrument.**
  - **Instrument/spacecraft interface has been checked using ETM+ proof-of-design multiplexer.**



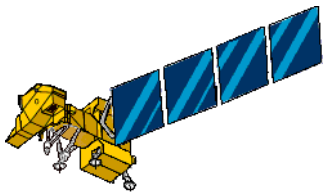
Project status

- **Instrument**
  - **Power supply failures attributed to reverse recovery time of rectifying diodes.**
  - **New diodes selected, installed and tested to verify fix.**
  - **All rectifying diodes replaced in the power supplies. Power supply testing is in process.**
  - **Contamination found in optical cavity and on the Prime Focal Plane has been cleaned and changes implemented to prevent re-occurrence.**
  - **Scanner assembly has been re-integrated, less the power supplies.**
  - **An algorithm has been developed to remove 104 kHz noise spike.**



Project status

- **Ground system**
  - **At the Mission Operations Center (MOC), 99% of the launch capabilities are in place and 74% have been verified.**
  - **Data Handling Facility (DHF) hardware [Landsat Ground Station (LGS), Landsat Processing System (LPS), & Image Assessment System (IAS)] and supporting software have been delivered to EDC.**
  - **Launch capabilities will be in place for the LGS, LPS and IAS in July. Verification of these capabilities will occur when wideband instrument data is available. This should be in the July/August time frame.**



Project status

- **Ground system** (continued)
  - **Level 1 Product Generation System (LPGS) development is on schedule to be operational in December 1998.**
  - **A System Requirements Review/Systems Design Review was held for the Level 1 Product Distribution System (LPDS).**
  - **LPDS will be fully operational in March of 1999**
  - **60% of the ground system requirements have been verified by combined ground system/spacecraft testing.**